IN THE CLAIMS:

Claim 1-28 (cancelled)

Claim 29. (original) A process for producing carbon nanotubes by arc discharge, wherein a path of the arc discharge is formed along the stream of an inert gas or inert gas-containing mixed gas supplied from an anode to a cathode comprising a carbon material, and simultaneously, the anode and the cathode are relatively moved so as to move a cathode spot of an arc on the cathode.

Claim 30. (original) A process for producing carbon nanotubes by arc discharge, wherein an arc is generated while an inert gas or an inert gas-containing mixed gas is jetted onto a cathode comprising a carbon material from the inside of a hollow electrode used as an anode, and simultaneously, the anode and the cathode are relatively moved so as to move a cathode spot of the arc on the cathode.

Claim 31. (original) A process for producing carbon nanotubes by arc discharge, wherein an arc is generated while an inert gas or an inert gas-containing mixed gas is jetted together with a metal powder or metal compound powder serving as a catalyst onto a cathode comprising a carbon material from the inside of a hollow electrode used as an anode, and simultaneously, the anode and the cathode are relatively moved so as to move a cathode spot of the arc on the cathode.

Claim 32. (previously presented) The process for producing carbon nanotubes according to claim 29, wherein the cathode spot of the arc is relatively moved on the surface of the cathode material at a speed in the range of 10 to 1,000 mm/min, by relatively moving the anode and the cathode.

Claim 33. (previously presented) The process for producing carbon nanotubes according to claim 29, wherein the arc discharge is performed in a normal atmosphere.

Claim 34. (previously presented) The process for producing carbon nanotubes according to claim 30, wherein the gas flow rate of the inert gas or inert gas-containing mixed gas jetted onto the cathode from the inside of the hollow electrode is in the range of 10 to 400 mL/min per square millimeter of cross section of the bore of the hollow electrode.

Claim 35. (previously presented) The process for producing carbon nanotubes according to claim 29, wherein argon or a mixture of argon gas and hydrogen gas is used as the inert gas or inert gas-containing mixed gas.

Claim 36. (previously presented) The process for producing carbon nanotubes according to claim 29, wherein the anode and the cathode are relatively moved so that the arc generation point on the surface of the cathode has a substantially constant temperature history, except for positions of arc generation start and

termination.

Claim 37. (previously presented) The process for producing carbon nanotubes according to claim 29, wherein the cathode spot is moved so as not to be formed repeatedly in the same region on the surface of the cathode.

Claim 38. (previously presented) The process for producing carbon nanotubes according to claim 29, wherein arc discharge is performed while the entire cathode, the cathode spot of the arc, or the front portion of an arc in an arc track on the cathode is heated.

Claim 39. (previously presented) The process for producing carbon nanotubes according to claim 29, wherein the cathode electrode comprises a carbon material having an electrical resistivity of 4,000 μΩ·cm or more, or a thermal conductivity of 40 W/m· K or less.

Claim 40. (previously presented) The process for producing carbon nanotubes according to claim 29, wherein a carbon material having an arithmetic average surface roughness (Ra) of 3.2 μm or less is used as the cathode.

Claim 41. (previously presented) The process for producing carbon nanotubes according to claim 29, wherein the carbon nanotubes are produced in a synthesis in which a gas is jetted onto a product produced on the locus of the cathode spot of the arc in a cooling step immediately after arc discharge.

Claim 42. (previously presented) The process for producing carbon nanotubes according to claim 29, wherein the carbon nanotubes constitute an aggregate in a tape form.

Claim 43-51. (canceled)